

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

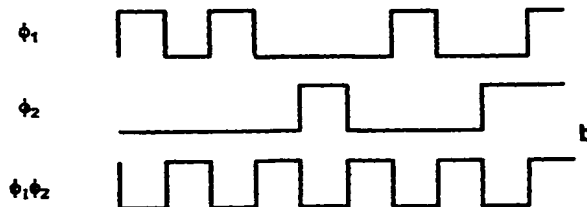
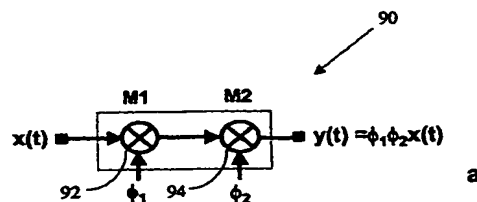
(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
8 March 2001 (08.03.2001)

PCT

(10) International Publication Number  
**WO 01/17121 A1**

- (51) International Patent Classification<sup>7</sup>: H04B 1/04, H03D 7/16
- (21) International Application Number: PCT/CA00/00995
- (22) International Filing Date:  
1 September 2000 (01.09.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
2,281,236 1 September 1999 (01.09.1999) CA
- (71) Applicant (for all designated States except US): SiRiFIC WIRELESS CORPORATION [CA/CA]; 1 Bluespring Drive, Unit 302, Waterloo, Ontario N2J 4M1 (CA).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MANKU, Tajinder [CA/CA]; 4 Jacqueline Place, Kitchener, Ontario N2N 3K9 (CA). SNYDER, Chris [CA/CA]; RR#1 Pleasantville, Lunenburg County, Nova Scotia B0R 1G0 (CA). WEALE, Gareth [CA/CA]; 61 Waterloo Street, New Hamburg, Ontario N0B 2G0 (CA).
- (74) Agents: HARRIS, John, D. et al.; Gowling Lafleur Henderson LLP, Suite 2600, 160 Elgin Street, Ottawa, Ontario K1P 1C3 (CA).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:**
- With international search report.
  - Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMPROVED METHOD AND APPARATUS FOR UP-CONVERSION OF RADIO FREQUENCY (RF) SIGNALS



(57) Abstract: This patent describes a method and system which overcomes the LO-leakage problem of direct conversion and similar RF transmitters. To solve this problem a virtual LO™ signal is generated within the baseband which is tuned to the incoming RF signal. The virtual local oscillator (VLO) signal is constructed using signals that do not contain a significant amount of power (or no power at all) at the wanted output RF frequency. Any errors in generating the virtual LO signal are minimized using a closed loop correction scheme.

WO 01/17121 A1